**ANSWERS**

**Counting Atoms Practice**

|  |  |  |  |
| --- | --- | --- | --- |
| **Chemical Formula** | **Name of Different Elements** | **# of atoms for each element** | **Total # of atoms in each molecule** |
| NaCl  (salt) | **Sodium**  **Chlorine** | **1**  **1** | **2** |
| CaCO3  (chalk) | **Calcium**  **Carbon**  **Oxygen** | **1**  **1**  **3** | **5** |
| NaHCO3  (baking soda) | **Sodium**  **Hydrogen**  **Carbon**  **Oxygen** | **1**  **1**  **1**  **3** | **6** |
| NaNO3  (fertilizer) | **Sodium**  **Nitrogen**  **Oxygen** | **1**  **1**  **3** | **5** |
| C2H4O2  (vinegar) | **Carbon**  **Hydrogen**  **Oxygen** | **2**  **4**  **2** | **8** |
| H2CO3  (formaldehyde) | **Hydrogen**  **Carbon**  **Oxygen** | **2**  **1**  **3** | **6** |
| H3COH  (methanol) | **Hydrogen**  **Carbon**  **Oxygen** | **4**  **1**  **1** | **6** |
| C6H12O6  (glucose) | **Carbon**  **Hydrogen**  **Oxygen** | **6**  **12**  **6** | **24** |
| Fe3O4  (magnetite) | **Iron**  **Oxygen** | **3**  **4** | **7** |

**Counting Atoms in Molecules or Compounds**

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For each of the compounds listed below, identify each element and the number of atom of each. Use your periodic table found in your text or agenda to assist in the process.

**Example:**

SnO2 Tin (Sn) – 1 atom Oxygen (O) – 2 atoms Name: Tin Oxide

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Compound** | **Element** | **# of atoms** | **Element** | **# of atoms** | **Element** | **# of atoms** |
| KCN  **Potassium Cyanide** | **Potassium** | **1** | **Carbon** | **1** | **Nitrogen** | **1** |
| CH3COOH  Acetic Acid  (vinegar) | **Carbon** | **2** | **Hydrogen** | **4** | **Oxygen** | **2** |
| TcO4  **Technetium oxide** | **Technetium** | **1** | **Oxygen** | **4** |  |  |
| CH3(CH2)2COOH  Butyric acid  (rotten smell of bad butter) | **Carbon** | **4** | **Hydrogen** | **8** | **Oxygen** | **2** |
| CH3(CH2)10COOH  Lauric acid  (found in coconut oil) | **Carbon** | **12** | **Hydrogen** | **24** | **Oxygen** | **2** |
| Sr3(PO4)2  **Strontium Phosphate** | **Strontium** | **3** | **Phosphorus** | **2** | **Oxygen** | **8** |
| Pb(ClO3)2  **Lead chlorate** | **Lead** | **1** | **Chlorine** | **2** | **Oxygen** | **6** |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Al(OH)3  **Aluminum Hydroxide** | **Aluminum** | **1** | **Oxygen** | **3** | **Hydrogen** | **3** |
| Li2CO3  **Lithium carbonate** | **Lithium** | **2** | **Carbon** | **1** | **Oxygen** | **3** |
| Fe2(SO4)3  **Iron sulphate** | **Iron** | **2** | **Sulfur** | **3** | **Oxygen** | **12** |
| Zn(NO3)2  **Zinc nitrate** | **Zinc** | **1** | **Nitrogen** | **2** | **Oxygen** | **6** |
| KClO3  **Potassium chlorate** | **Potassium** | **1** | **Chlorine** | **1** | **Oxygen** | **3** |
| PbO  **Lead oxide** | **Lead** | **1** | **Oxygen** | **1** |  |  |
| Br2  **Bromine gas** | **Bromine** | **2** |  |  |  |  |
| Ca10(PO4)6(OH)2  Hydroxyapatite | **Calcium** | **10** | **Phosphorus** | **6** | **Oxygen** | **26** |
|  | **Hydrogen** | **2** |  |  |  |  |
| CH3COO(CH2)7CH3  Octyl lacatite | **Carbon** | **10** | **Hydrogen** | **20** | **Oxygen** | **2** |
| RbNO3  **Rubidium nitrate** | **Rubidium** | **1** | **Nitrogen** | **1** | **Oxygen** | **3** |